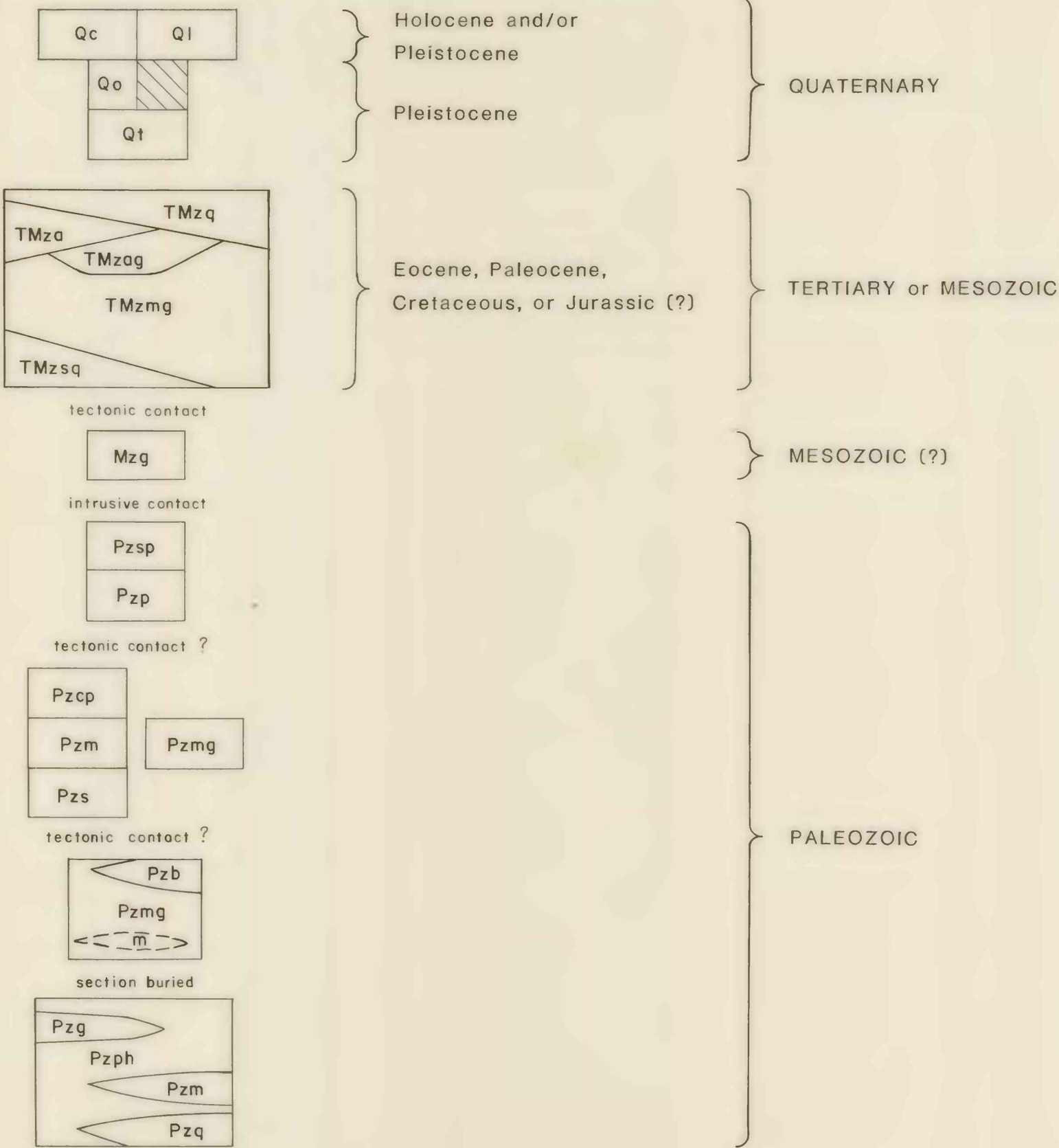


CORRELATION OF MAP UNITS



DESCRIPTION OF MAP UNITS

SURFICIAL UNITS

Qc	COLLUVIUM (HOLOCENE) Landslides in outwash along the Columbia River (Jones and others, 1961)
Ql	LACUSTRINE DEPOSITS (HOLOCENE AND/OR PLEISTOCENE) Fine-grained sediments with some peat in marshes and around lakes
Qo	OUTWASH (PLEISTOCENE) Light brown, loosely-consolidated, moderately-sorted sand and gravel deposits. Cross-hatched on terrace levels
Qt	TILL (PLEISTOCENE) Gray to light brown, unsorted and unstratified deposits of subangular to subrounded rock fragments in a medium to fine-grained matrix

ROCKS OF THE KETTLE GNEISS DOME (EOCENE, PALEOCENE, CRETACEOUS, OR JURASSIC (?))

TMzq	QUARTZITE Light brown to reddish brown, fine to medium-grained quartzite with thin muscovite folia, interlayered with muscovite schist and rare biotite schist. Also contains veins of massive white quartzite. Locally is mylonitic to ultramylonitic
TMzo	AMPHIBOLITE Black, medium-grained, hornblende-feldspar gneiss and schist with minor pegmatite and calc-silicates. Interlayered with mylonite gneiss in places
TMzog	ALASKITE GNEISS White, medium to coarse-grained, feldspar-quartz-muscovite gneiss, locally mylonitic to ultramylonitic. Similar to minor pegmatite and alaskite bodies found throughout the gneiss dome
TMzmg	MYLONITE GNEISS Gray, medium-grained, feldspar-quartz-biotite-muscovite gneiss, locally chloritic; dominantly a mylonite gneiss, but locally develops mylonites, blastomylonites, and ultramylonites in thin zones, particularly in the upper part of the unit. Thin pegmatite and alaskite bodies, commonly mylonitic, are common throughout the unit
TMzsq	SILLIMANITE QUARTZITE Gray to brown, fine to medium-grained quartzite with biotite and muscovite. Unit contains abundant sillimanite in Boyds Quadrangle to north (Wilson, 1980)
TMzms	MARBLE AND SILLIMANITE SCHIST Interlayered white, coarse-grained marble and biotite-quartz-feldspar-sillimanite schist and gneiss with minor gray to brown quartzite (structure section only, see Wilson, 1980)
TMzpg	PORPHYROCLASTIC GNEISS Gray, medium to coarse-grained, feldspar-quartz-biotite gneiss with local 1 to 5 cm-long K-feldspar porphyroclasts. Contains layers of biotite-hornblende-feldspar schist (structure section only, see Wilson, 1980)

This map is preliminary and has not been reviewed for conformity with U. S. Geological Survey editorial standards and stratigraphic nomenclature.

ROCKS OF THE BORDER ZONE

Mzg	GRANODIORITE (MESOZOIC ?) Yellowish-brown, medium-grained, equigranular granodiorite
Pzsp	SPOTTED PHYLLITE (PALEOZOIC) Greenish-brown, brown, or gray, fine to medium-grained, weakly-foliated slate, phyllite, and schist. Matrix consists of dominantly of fine-grained micas and quartz with abundant subrounded chert (?) or volcanoclastic fragments
Pzp	PHYLLITE (PALEOZOIC) Dark gray, fine-grained, thinly-foliated phyllite with minor limestone
Pzcp	CALCAREOUS PHYLLITE (PALEOZOIC) Dark greenish-brown phyllite. Contains coarse calcite grains in matrix of fine-grained, well-foliated micaceous phyllite
Pzm	MARBLE (PALEOZOIC) Gray, fine-grained, massive to well-layered, recrystallized limestone, locally dolomitic. Includes similar lithologies on both sides of the Columbia River
Pzs	SLATE (PALEOZOIC) Dark greenish-gray, fine-grained, calcareous, chloritic slate and phyllite
Pzmg	META-GRAYWACKE (PALEOZOIC) Dark gray to greenish-gray, fine to coarse-grained, recrystallized calcareous mudstones, sandy mudstones, and argillites, locally containing volcanoclastic breccias and greenstone. m - interlayers of green to gray, fine-grained marble
Pzb	BASALT PORPHYRY (PALEOZOIC ?) Black, fine-grained basalt with 2 to 10 mm-wide pyroxene phenocrysts. Rock is extensively recrystallized. May be lava flow or sill
Pzph	PHYLLITE (PALEOZOIC) Dark gray to dark greenish-gray, fine-grained argillite to thinly-layered phyllite, locally chloritic
Pzg	GREENSTONE (PALEOZOIC) Dark grayish-green, fine-grained metavolcanic rock
Pzq	QUARTZITE (PALEOZOIC) Light gray and light brown to dark gray, fine, fine-grained, usually massive quartzite

CONTACTS

---	Accurately located
- - -	Approximately located
- . -	Gradational
▲▲▲	EXTERNAL CONTACT OF THE KETTLE GNEISS DOME, dotted where concealed, barbs on upper block

POSSIBLE FAULT

↗ 23	Earlier, penetrative foliation ³
✦	Horizontal earlier foliation ³
↘ 23	Compositional layering, may be bedding in places
↘ 17	Later, nonpenetrative, mylonitic foliation

TREND AND PLUNGE OF LINEATION ²

↗ 9	Inclined earlier lineation ³
↖ 5	Horizontal earlier lineation ³
↘ 5	Inclined later, mylonitic lineation

TREND AND PLUNGE OF MINOR FOLD AXES ²

↗ 9	Tight to isoclinal, recumbent folds, commonly intrafolial type
↗ 12	Asymmetric, commonly overturned, usually kink-like folds
↗ 2	Gentle to open, upright folds

STRIKE AND DIP OF JOINTS ²

↗ 81	Inclined, numerous in outcrop
↖ 79	Vertical, numerous in outcrop
↖ 79	Inclined, less numerous in outcrop
↖ 8	Vertical, less numerous in outcrop

TREND OF GLACIAL STRIATIONS

MINES AND PROSPECTS

⊥	Adit
⊥	Shaft
⊥	Open pit
x	Prospect
	Materials mined: b, building stone; g, gravel; p, pegmatite (probably Uranium); Cu, Copper (?); Fe, Iron (?); ACME, Sb, As, Cu, Au, Pb, Ag, Zn; ALMA, Au, Pb, Ag, Zn (Hunting, 1956)

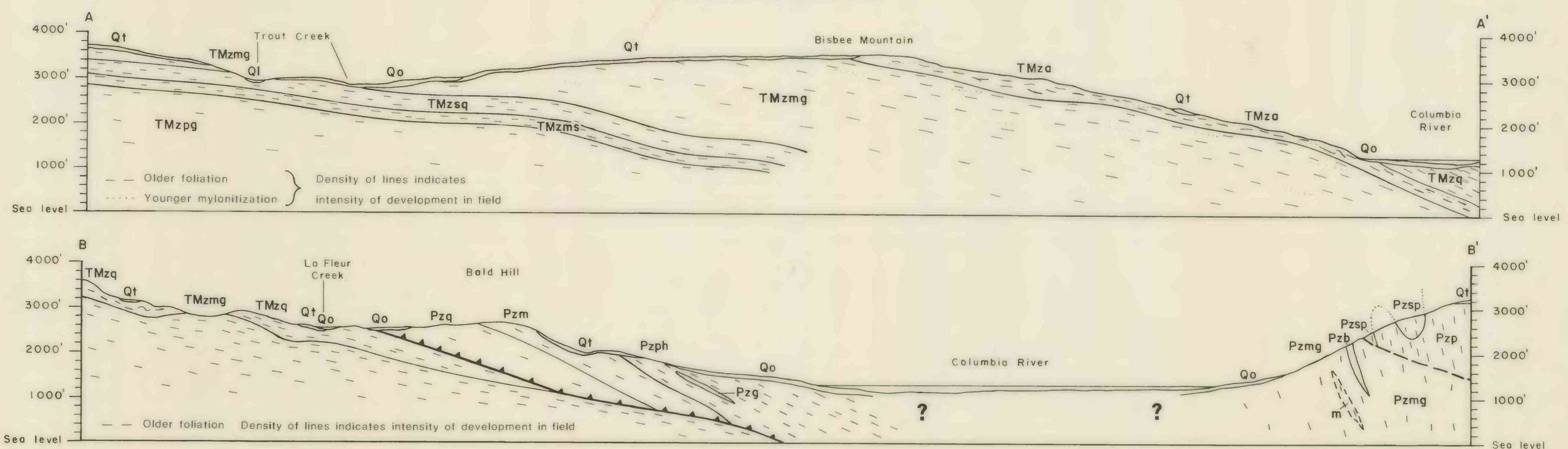
NOTES

- 1 Age given is age of internal deformation and terminal metamorphism
- 2 Symbols are combined at location measured
- 3 Older foliation and lineation may be later mylonitization in places but was not recognized due to poor exposures

REFERENCES CITED

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STRUCTURE SECTIONS



GEOLOGIC MAP OF THE BANGS MOUNTAIN QUADRANGLE, FERRY and STEVENS COUNTIES, WASHINGTON

by
J. R. WILSON
1981